

Date: Thursday, 20/09/2007 12:07:33 PM
 User: Linda Lacelle

Process Sheet

BLUR

Customer	: CC-DAR01 Dart Aerospace Ltd.	Drawing Name	: D206-667-243
Job Number	: 34719		
Estimate Number	: 10804		
P.O. Number	: N/A	Part Number	: D206667203 B2
This Issue	: 20/09/2007 S.O. No. : N/A	Drawing Number	: REWORK/HAI
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : LANDING GEAR	Drawing Revision	: N/A
Previous Run	: 00015	Material	: N/A
Written By	:	Due Date	: 27/09/2007 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	:		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	QC5	INSPECT WORK TO CURRENT STEP
-----	-----	------------------------------



Comment: REMOVE FROM HAI DISPLAY
 1 X D206-667-243 B13378

07-09-20

2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1
 STRIP PAINT

07-09-20

3.0	QC5	INSPECT WORK TO CURRENT STEP
-----	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

07-09-20

4.0	QC15	DIMENSIONAL CHECK OF X-TUBES
-----	------	------------------------------



Comment: DIMENSIONAL CHECK OF X-TUBES

07-09-20

PTO
 SER
 2nd to
 last page.

5.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

-DRILL OEM HOLES PER CHG002

-DEBURR AND POLISH AS PER NEW METHOD

-ALODINE

07-09-21

DP 7-9-21

SD 7-9-21

Date: Thursday, 20/09/2007 12:07:33 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-667-243

Job Number: 34719

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Mask Threaded holes

2-Prime inside and outside crosstube as per QSI 005 4.2

3-Paint outside crosstube with White Imron as per QSI 005 4.2

Handwritten: Not removed from HAI Display
See w/o 13378
Issue PO 4650 Atelier Debosselz
Grey paint Deflect Blue tele 20

8.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

Handwritten: 07 09 25



9.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number

Description Batch

2 D2873-045

Nut Plate

Handwritten: 32777

Handwritten: 25 07-09-22

10.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number

Description Batch

2 D2873-043

Nut Plate

Handwritten: 32512

Handwritten: 25 07-09-22

11.0

MS20601AD4W10

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Pick:

Qty Part number

Description Batch

14 MS20601AD4W10 Rivet

Handwritten: 105057

Handwritten: 25 07-09-22

Handwritten: 76 Receive + inspect for transit damage 07/2/27

Date: Thursday, 20/09/2007 12:07:33 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-667-243

Job Number: 34719

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install nut plates as per Dwg D206-667-243.

RT 07-09-22

13.0

D2856400

Abrasion Strip



Comment: Qty.: 1.3525 f(s)/Unit Total : 1.3525 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 7.73") Abrasion Strip

34293

ml 07 09 25

14.0

D28921

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2892-1 Support

32374

ml 07 09 25

15.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22 Clamp

105066

ml 07 09 25

16.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8580. Note: (3) top holes should be facing up.

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

ml 07 09 25

17.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Ins. 250

Date: Thursday, 20/09/2007 12:07:34 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-667-243

Job Number: 34719

Part Number: D206667203

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

18.0	PACKAGING 1	PACKAGING RESOURCE #1
------	-------------	-----------------------



Comment: PACKAGING RESOURCE #1
Pick Packing Kit

19.0	AN534A	Bolt
------	--------	------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
Bolt
Batch: M102850

EP

20.0	MS21042L5	Nut
------	-----------	-----



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
Nut
Batch: M104547

EP

21.0	AN510A	Bolt
------	--------	------



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
10 AN5-10A Bolt M105433

EP

22.0	AN532A	Bolt
------	--------	------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
4 AN5-32A Bolt M103962

EP

23.0	AN960JD516	Washer
------	------------	--------



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
18 AN960JD516 Washer M104156

EP

20/09/250

Date: Thursday, 20/09/2007 12:07:34 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-667-243

Job Number: 34719

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

Ep 07/09/25

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-203

Location: _____

PPP Rev: _____

C 07/09/25 (1)

26.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/09/25 (1)

Job Completion



07/09/25
POSITIVE RECALL

EFFECTIVE 07-09-20 AUTH *[Signature]*

RELEASED *[Signature]*

DATE 07-09-25

B34719

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
0709-20	4.0	Tube is slightly low, as per dim sheet. Proceed with drilling to the new rev. under the positive recall				<i>[Signature]</i> 0709-20	<i>[Signature]</i> 0709-20	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

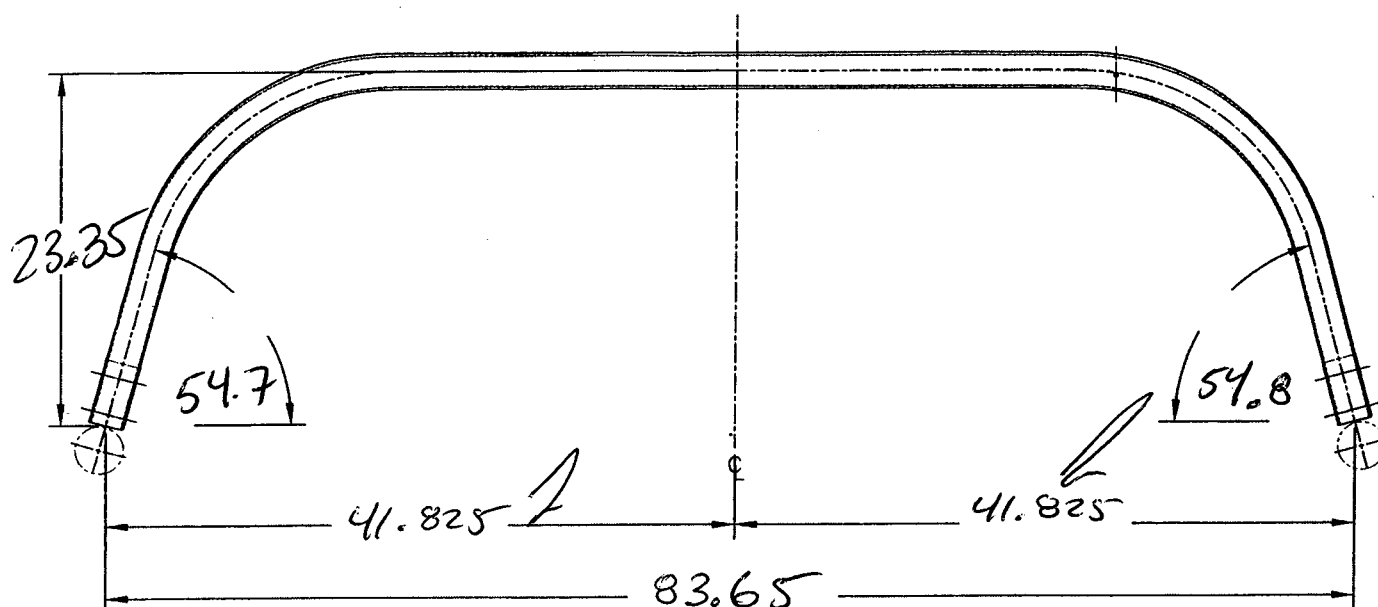
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
0709-20	4.0							

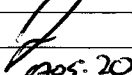
NOTE: Date & initial all entries


DART AEROSPACE LTD		Work Order:	34719
Description: Crosstube High Aft (206L)		Part Number:	D206-667-203
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



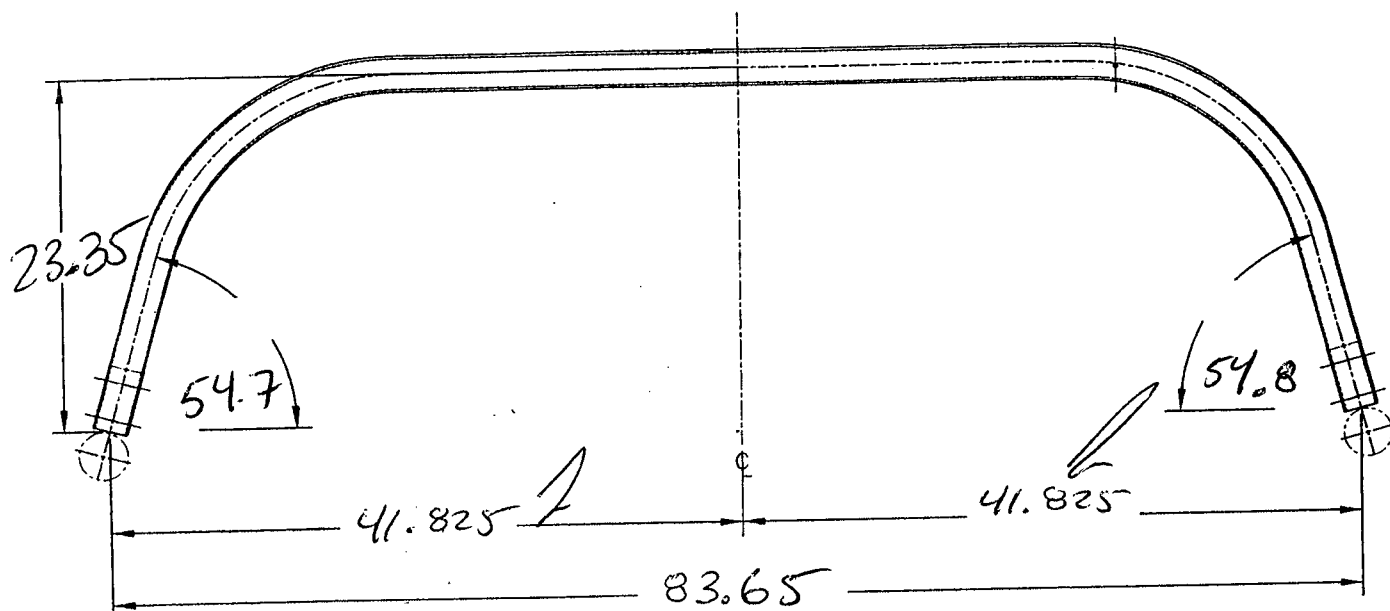
Comments
- Tube previously drilled on original w/d 13378
- Bottom of cuff -> center of bottom hole is 0.780"

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	

DART AEROSPACE LTD		Work Order:	34719
Description: Crosstube High Aft (206L)		Part Number:	D206-667-203
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



Comments
- Tube previously drilled on original w/o 13378
- Bottom of cuff -> center of bottom hole is 0.780"

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	

ACCEPTABLE DEVIATION
 07.09.25

Attached

WR 34719

To this when
complete.



L Lacelle

From: Jason Murdoch [jmurdoch@dartaero.com]

Sent: September 20, 2007 8:36 AM

To: 'L Lacelle'

Subject: custom w/o for 206/-243

- Pull D206-667-243 B 13378
- Strip paint
- Qc5
- dimensional inspection Qc 15
- Drill oem hole per new rev
- debur and polish as per new method
- alodine
- Qc 5
- prime paint white?
- Qc 14
- pick hardware
- Assemble as per dwg
- Qc 5
- Etc.

jmurdoch@dartaero.com
Q.C. COORDINATOR

20/09/2007

Change to → HAI

③

DART AEROSPACE LTD	Work Order:	13378
Description: 206L Aft Crosstube Assembly	Part Number:	D206-667-243
Drawing: D206-667-243 rev. A	Qty:	1
Page 1 of 2		

Step	Location	Procedure	By	Date	Qty
1	EXPEDITING	Issue W/O	OB	01.01.12	1
2	CNC CELL	Material: Qty Part number Description batch 1 D6004-115 Crosstube 13129	JM	01-01-19	1
3	CNC CELL	Fill tube with sand & install plugs DT8534 on both ends as per folio FA089	JM	01-01-19	1
4	CNC CELL	Turn first side as per folio FA089	JM	01-01-19	1
5	METAL	Deburr & Inspect for surface damage. Repair damage within limits per D206-667-243	JM	01-01-19	1
6	QC	Inspect Level 1	JM	01-01-19	1
7	CNC CELL	Turn second side as per folio FA089	JM	01-01-19	1
8	METAL	Deburr & Inspect for surface damage. Repair damage within limits per D206-667-243	JM	01-01-19	1
9	QC	Inspect Level 1	JM	01-01-19	1
10	CNC CELL	Polish entire outside surface of crosstube	JM	01-01-19	1
11	CNC CELL	Remove sand and plugs	JM	01-01-19	1
12	FINISHING	Chemical Conversion Coat per QSI 005 4.1 within 24 hours of machining	JB	01/01/20	1
13	QC	Inspect Level 5	JB	01/01/23	1
14	METAL	Bend tube as per dwg D206-667-243 using CNC bender program 206L-af	RE	01.01.24	1
15	QC	Inspect Level 6	JB	01.01.24	1
16	METAL	Drill pilot holes in tube as per dwg using drill jig DT8541 & DT8542	RE	01.01.25	1
17	METAL	Ream hole to finish size in tube as per dwg D206-667-243 using drill jig DT8541 & DT8542	RE	01.01.25	1
18	METAL	Scribe part # and batch # using vibrating stylus as per dwg D206-667-243	RE	01.01.25	1
19	METAL	Deburr & Inspect for surface damage. Repair damage within limits per D206-667-243	RE	01.01.25	1
20	FINISHING	Chemical conversion coat per QSI 005 4.1 within 24 hours of bending and drilling	RE	01.01.25	1
21	QC	Inspect Level 5	JB	01-01-25	1
22	QC	Liquid Penetrant Inspect per QSI 038 Or Issue P/O: 2003094 LPI per ASTM 1417 Level 2 Attach copy of NDT results to W/O	JB	01-01-25	1
23	FINISHING	Prime inside and outside per QSI 005 4.2	JB	01-01-28	1
24	FINISHING	Paint outside gloss white per QSI 005 4.2	JB	01-01-28	1

RELEASED

00.12.14



o

D

SECRET



c

DS

o

DART AEROSPACE LTD	Work Order:	13378
Description: 206L Aft Crosstube Assembly	Part Number:	D206-667-243
Drawing: D206-667-243 rev.A	Qty:	1
		Page 2 of 2

Step	Location	Procedure	By	Date	Qty																
25	QC	Inspect Level 3																			
26	STORES	Pick: <table><tr><th>Qty</th><th>Part number</th><th>Description</th><th>batch</th></tr><tr><td>2</td><td>D2856-400-773</td><td>abrasion strip</td><td>B13276</td></tr><tr><td>2</td><td>D2892-1</td><td>support</td><td>Prototype N/A</td></tr><tr><td>4</td><td>MS21920-22</td><td>clamp</td><td>H8200</td></tr></table>	Qty	Part number	Description	batch	2	D2856-400-773	abrasion strip	B13276	2	D2892-1	support	Prototype N/A	4	MS21920-22	clamp	H8200	OG	01.01.30	1
Qty	Part number	Description	batch																		
2	D2856-400-773	abrasion strip	B13276																		
2	D2892-1	support	Prototype N/A																		
4	MS21920-22	clamp	H8200																		
			OG	01.01.30	1																
27	METAL	Install abrasion strips per QSI 035	EC	01.01.31	1																
28	METAL	Install supports and clamps per D206-667-243. Torque clamps to 80-100 in lb.	EC	01.01.31	1																
29	QC	Inspect Level 5	EC	01.01.31	1																
30	STORES	Identify and Stock <i>Installed on gear, will keep for she</i>	EC	01.03.07	1																
31	EXPEDITING	Close W/O Cost / Part: 545.67 54E 01/03/07 (1)																			

Rev	Date	Change	Revised By	Approved
A	00.12.14	New Issue	EC	#

RELEASED

EC 00.12.14

DART

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D206-667-243	REV. A SHEET 1 OF 3
DATE 00.11.17		TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE NTS
A	00.11.17	NEW ISSUE	

Qty	Part Number	Description
X	D206-667-243	CROSSTUBE ASSEMBLY
1	D6004-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2892-1	SUPPORT
4	MS21920-22	CLAMP

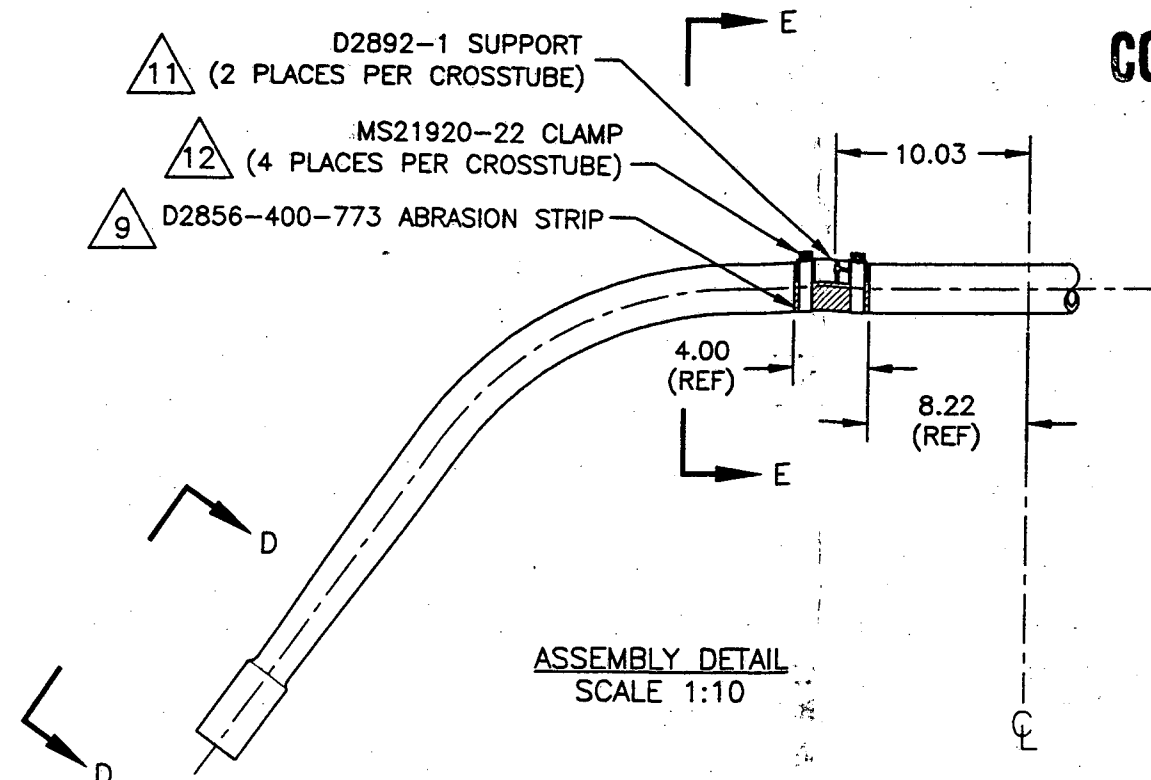
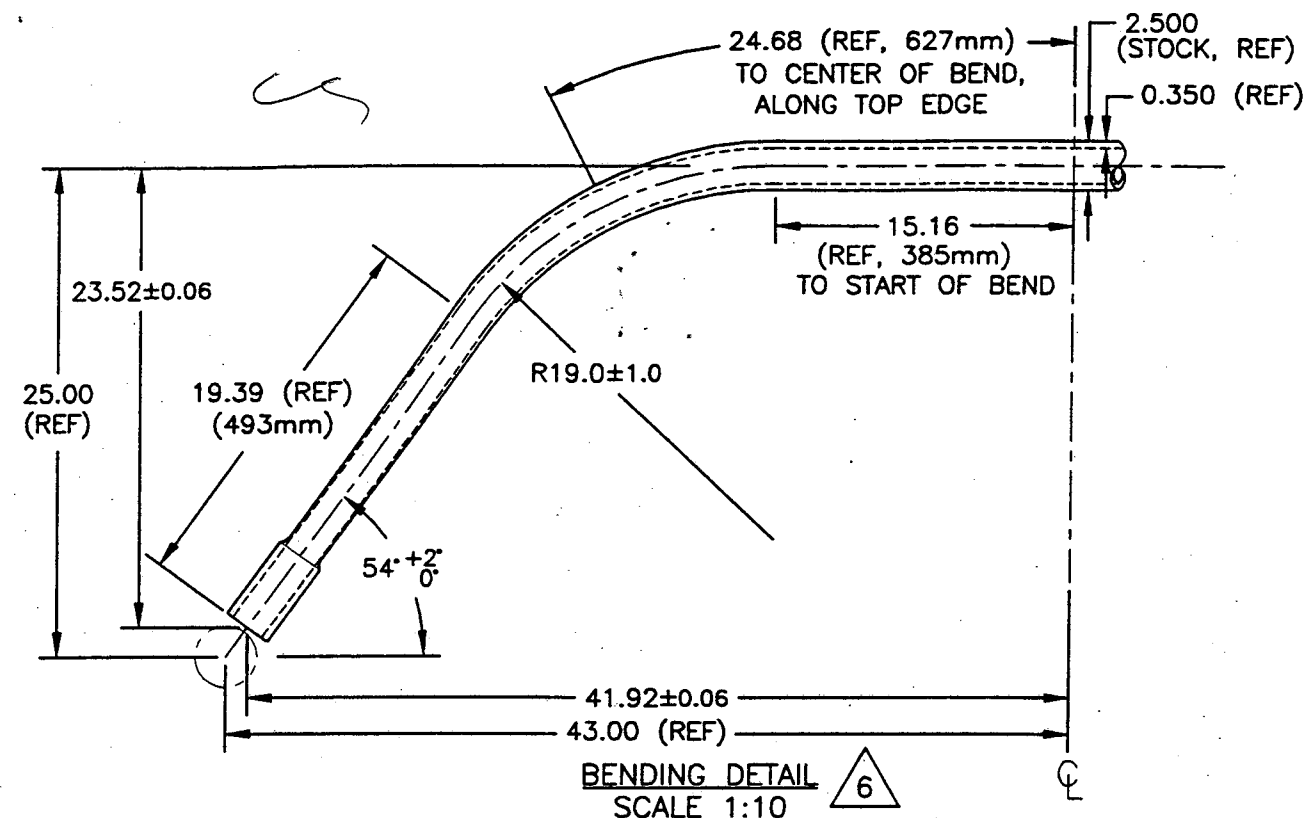
GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 12 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2892-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

WORK ORDER
NO. 13378**CONTROLLED COPY****SHOP COPY
RETURN TO
ENGINEERING****Copyright © 2000 by DART AEROSPACE LTD**

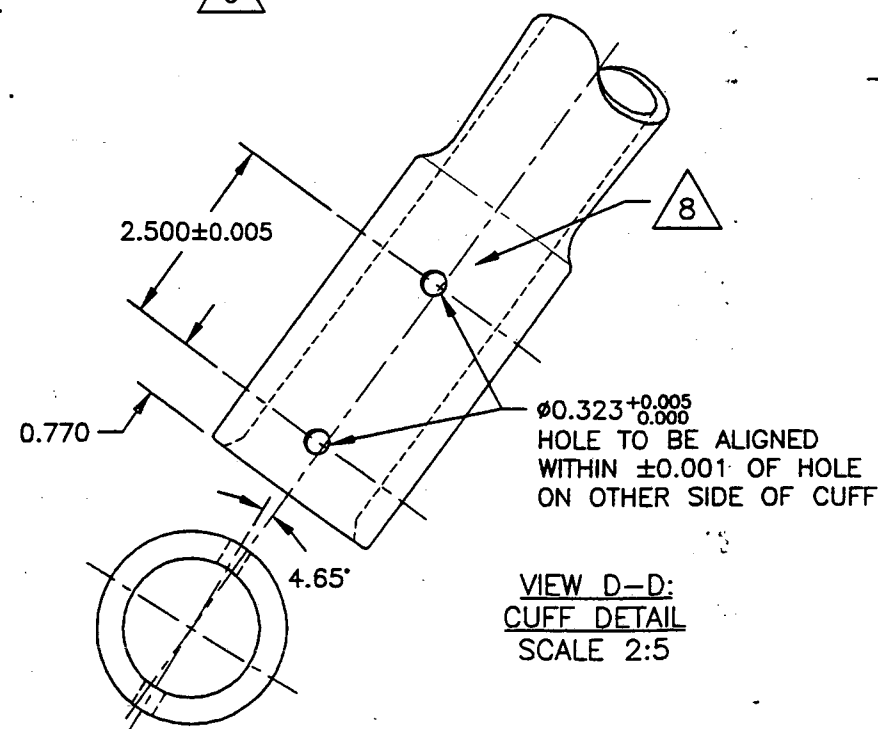
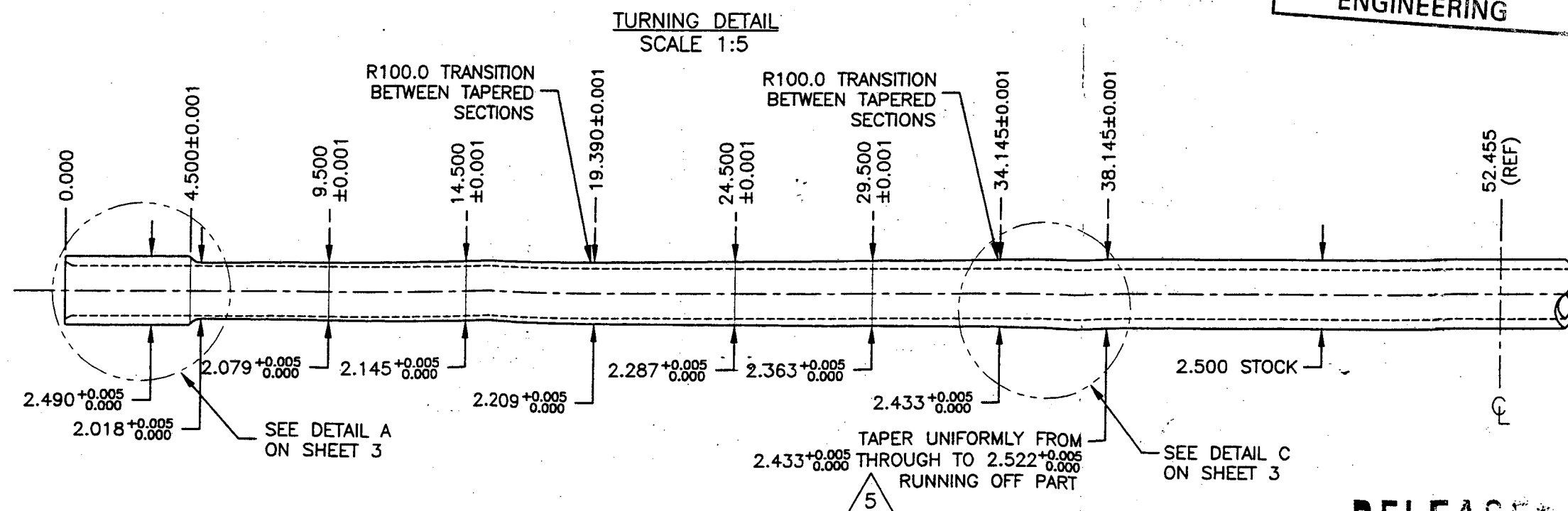
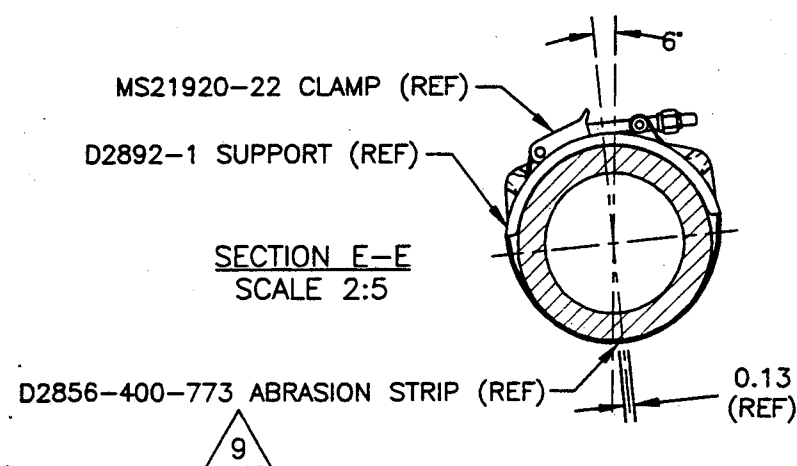
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

CONTROLLED COPY



WORK ORDER
NO. 13378

SHOP COPY
RETURN TO
ENGINEERING



RELEASED
00.11.24

COPYRIGHT © 2000 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DESIGN

CP

DRAWN BY

CP

DART

DART AEROSPACE LTD.
HARRISBURG, ONTARIO, CANADA

CHECKED

APPROVED

CP

CP

DRAWING NO.

REV. A

DATE

00.11.17

TITLE

CROSSTUBE ASS'Y (206L HIGH AFT)

D206-667-243

SHEET 2 OF 3

SCALE

1:10

SCALE

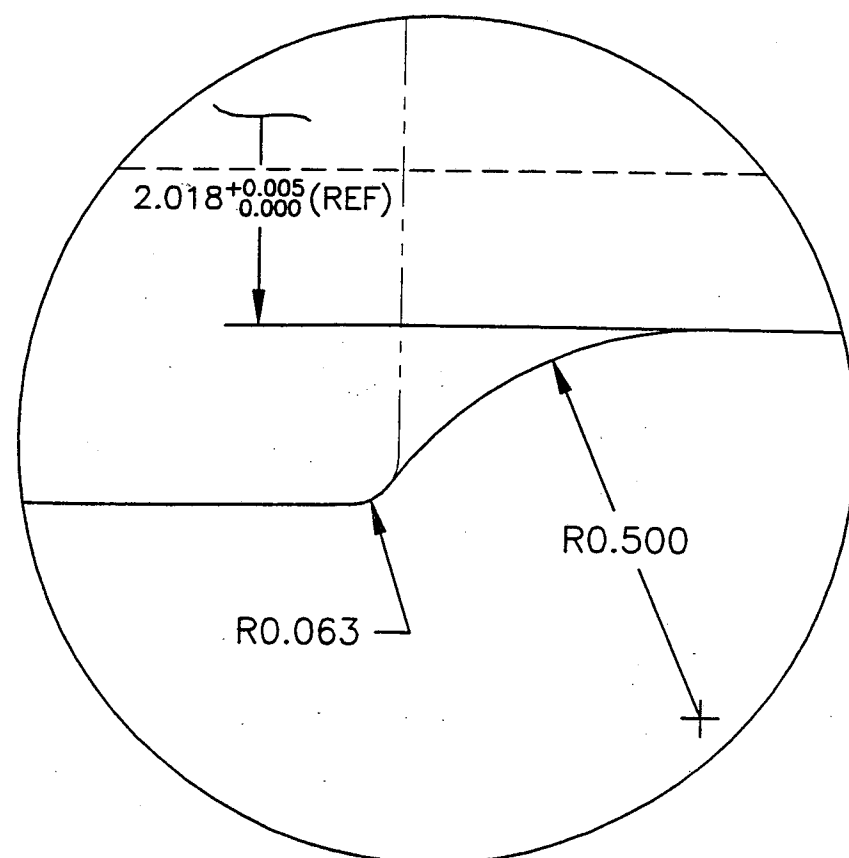
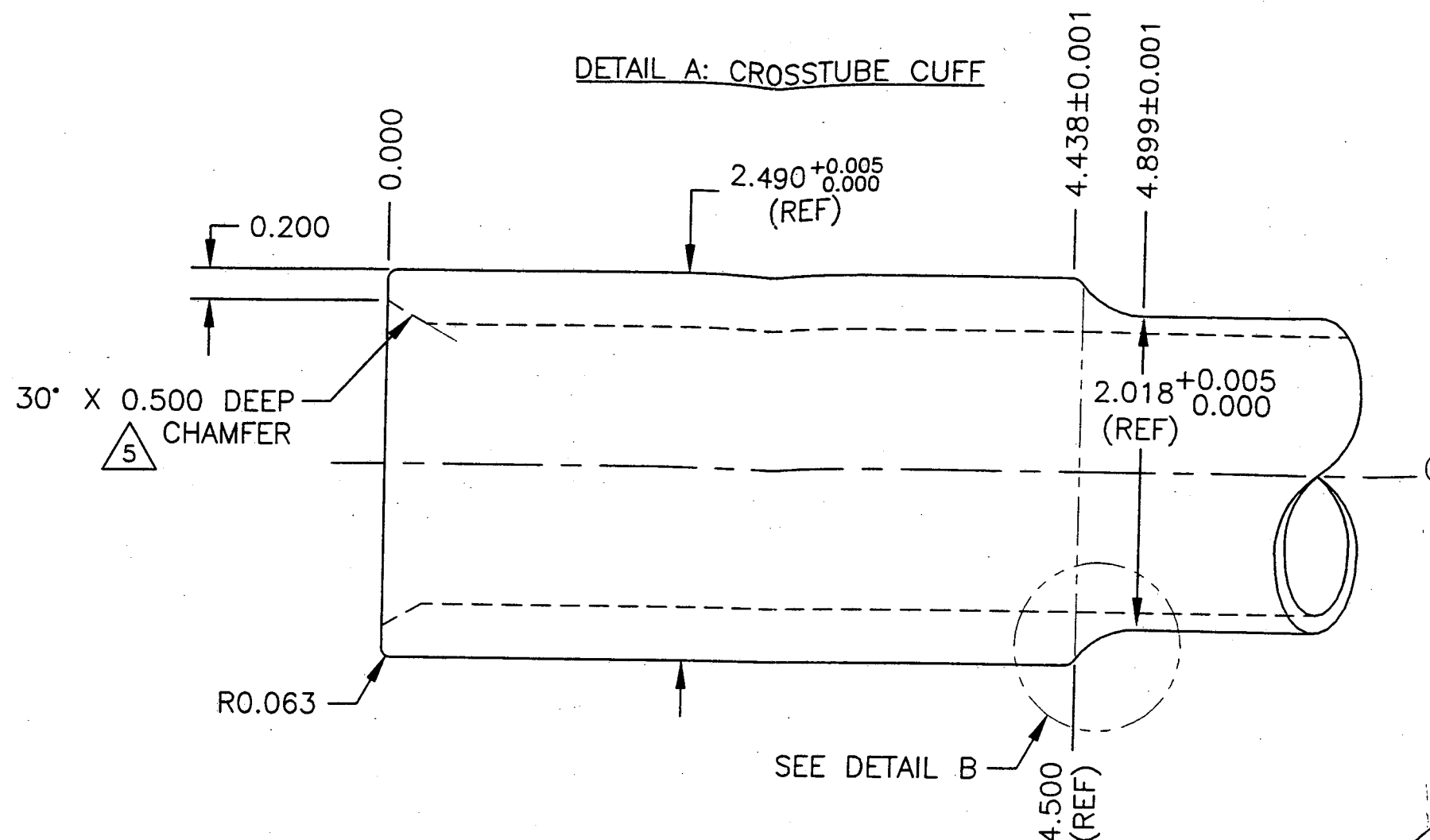
1:10

RELEASED
00.11.24

CONTROLLED COPY

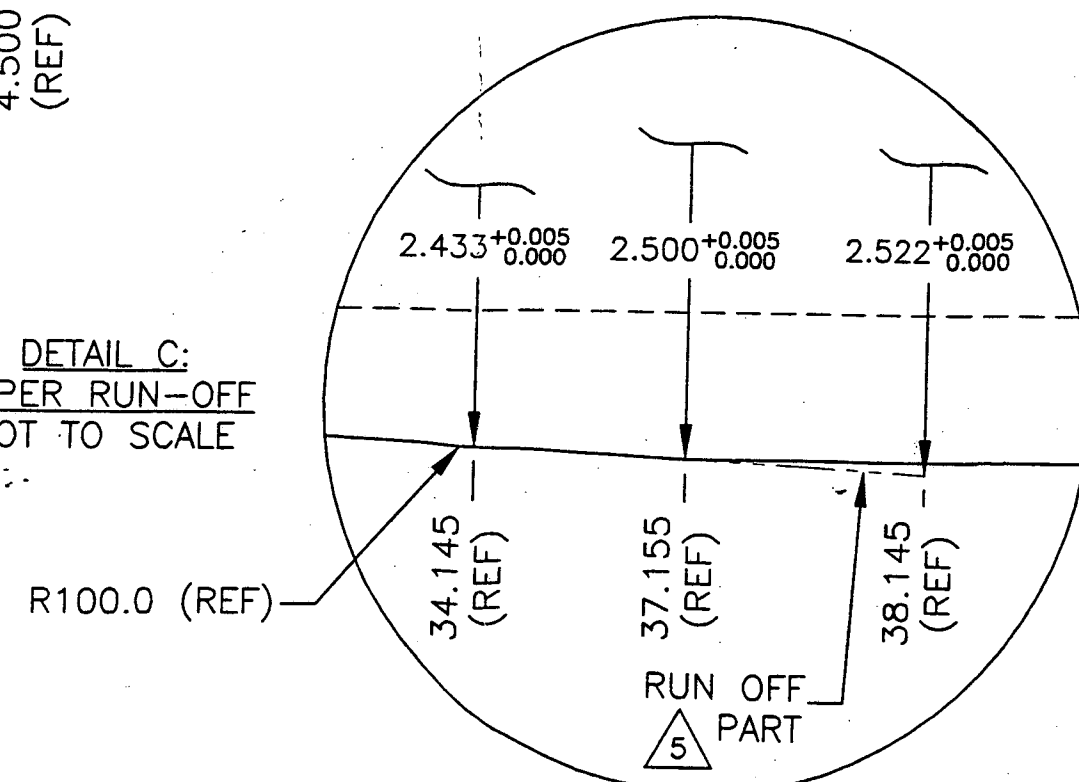
WORK ORDER
NO. 13378

SHOP COPY
RETURN TO
ENGINEERING



DETAIL B: CUFF
TRANSITION
SCALE 4:1

DETAIL C:
TAPER RUN-OFF
NOT TO SCALE



COPYRIGHT © 2000 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DESIGN CP	DRAWN BY CP	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D206-667-243	REV. A SHEET 3 OF 3
DATE 00.11.17	TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE 1:1	

DATA SHEET NO.: 11/A

□ FINAL INSPECTION

Rev. A



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 20116

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (3) cross tubes as per ASTM E-1417-99
the customer request.

1. D212-664-241 S/N B13382
2. D206-667-243 S/N B13378
3. D212-664-141 S/N B13380

☐ RADIOGRAPHY

☐ ULTRASONIC

☒ PENETRANT

☐ MAGNETIC PARTICLE

☐ EDDY CURRENT

INSPECTION REPORT

Fluorescent penetrant inspection performed on the above
named (3) cross tubes in accordance with ASTM E-1417-99
the customer request.

All (3) tubes accepted. No cracks found.

NOTE: A level 4 water washable penetrant was used in lieu
of the level 2 requested - the level 4 is more
sensitive. PI36E Brent (Ardrox)

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY: _____

DATE 26 Jan, 2001

INSPECTION
STAMP(S)



CUSTOMER INFORMATION

CUSTOMER: DART AEROSPACE

P.O. NUMBER 2003094

ADDRESS:

CONTACT NAME: LINDA

LABOUR	@	\$
MATERIALS	@	
TRAVEL EXPENSES	@	GST
HOTEL EXPENSES	@	PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT